

CLAIMS

- 1 1. A method of treating an exhaust gas containing ammonia and metalorganic
2 vapour, the method comprising: partially removing the metalorganic vapour
3 from the exhaust gas; and exposing the exhaust gas to an ammonia
4 decomposition catalyst.
- 1 2. The method according to claim 1, wherein the metalorganic vapour is
2 removed by partially decomposing the metalorganic vapour within the exhaust
3 gas.
- 1 3. The method according to claim 2, wherein the metalorganic vapour is
2 decomposed by exposing the exhaust gas to a heated bed of one or more
3 materials.
- 1 4. A method of treating an exhaust gas containing ammonia and metalorganic
2 vapour, the method comprising: exposing the exhaust gas to a heated bed of
3 material to cause the metalorganic vapour to decompose, and then exposing
4 the exhaust gas to an ammonia decomposition catalyst.
- 1 5. The method according to claim 4, wherein the exhaust gas is conveyed into a
2 first chamber containing the heated bed and subsequently into a second
3 chamber containing the catalyst.
- 1 6. The method according to claim 4, wherein the exhaust gas is conveyed into a
2 single chamber sub-divided into two zones by the heated bed and the
3 catalyst.
- 1 7. The method according to claim 4, wherein the catalyst is heated to
2 decompose the ammonia into nitrogen and hydrogen.

- 1 8. The method according to claim 7, wherein the catalyst comprises nickel
2 supported on a ceramic former.
- 1 9. The method according to claim 4, wherein the metalorganic vapour comprises
2 a metal-alkyl vapour.
- 1 10. The method according to claim 4, wherein the metalorganic vapour comprises
2 a group III metal.
- 1 11. The method according to claim 10, wherein the metalorganic vapour
2 comprises at least one of trimethyl gallium, trimethyl indium, and trimethyl
3 aluminium.
- 1 12. The method according to claim 4, wherein the heated bed comprises a metal
2 and a metal oxide.
- 1 13. The method according to claim 12, wherein the exhaust gas is exposed to the
2 heated metal and the exhaust gas exposed to the heated metal is exposed to
3 the heated metal oxide.
- 1 14. An apparatus for treating an exhaust gas containing ammonia and
2 metalorganic vapour, the apparatus comprising: means for partially removing
3 the metalorganic vapour from the exhaust gas, and means for exposing the
4 exhaust gas to an ammonia decomposition catalyst.
- 1 15. The apparatus according to claim 14, wherein the removing means comprises
2 means for partially decomposing the metalorganic vapour within the exhaust
3 gas.

- 1 16. The apparatus according to claim 14, wherein the removing means comprises
2 means for exposing the exhaust gas to a heated bed of one or more materials
3 for causing the metalorganic vapour to decompose.
- 1 17. An apparatus for treating an exhaust gas containing ammonia and
2 metalorganic vapour, the apparatus comprising: exposing means for
3 exposing the exhaust gas to a heated bed of one or more materials to cause
4 the metalorganic vapour to decompose and for subsequently exposing the
5 exhaust gas to an ammonia decomposition catalyst.
- 1 18. An apparatus according to claim 17, wherein the exposing means comprises
2 first and second sequential stages in communication with each other and
3 through which the exhaust gases pass during treatment, the first stage
4 containing the heated bed and the second stage containing the catalyst.
- 1 19. An apparatus according to claim 17, wherein the exposing means comprises
2 a single gas treatment chamber subdivided into two zones by the heated bed
3 and the catalyst.
- 1 20. An apparatus according to claim 19, wherein the exposing means comprises
2 a replaceable cartridge.
- 1 21. An apparatus according to claim 18, wherein the exposing means comprises
2 a first chamber containing the heated bed and a second chamber downstream
3 from the first chamber containing the catalyst.
- 1 22. An apparatus according to claim 17, comprising means for heating the
2 catalyst to decompose the ammonia into nitrogen and hydrogen.